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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/785,371 | 02/24/2004 | Allen David Hertz | HER-04-01 | 8951 |
| 31877 | 7590 | 06/27/2005 | EXAMINER | |
| ALLEN D. HERTZ 12784 TULIPWOOD CIRCLE BOCA RATON, FL 33428 | | | TRINH, MINH N | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3729 | |

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/785,371 | Applicant(s) HERTZ ET AL. | |
| | Examiner Minh Trinh | Art Unit 3729 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear as to whether "a printed circuit board" (claim 1, line 4) as same as one that previously recited in line 2 of claim 1.

The scope of the claim is not clear because it recites an outside element such as solder paste and the defecting of the solder paste . . . with a protective collar" is not clear as to how the "solder paste" and "defecting step" have any thing to do with the method for maintaining of a support as recited in the preamble of the claims 1-5. It appears that the "use of a protective collar" for defecting of solder paste from entering the interface region.

It is not know how the collar being use to protect the circuit board and its compliant area as recited in claim 3, further, limitation of claim 4 is not under stood because it in unclear as to how a portion of the collar can protect a PCB.

The scope of claim 5 is not clear because it directs to a method (fabrication) instead of the method recited in claim 1.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins (4,730,159).

Collins discloses a method for maintaining reliability of a support to a printed circuit board comprising steps of positioning elongated support members in an array layout to support a printed circuit board, wherein the elongated support members are configured and held within a base member (see Figs. 2-5). Collins does not teach step of deflecting solder paste from interface between the elongated support member and the base member with a protective collar. However, Collins does teach the use of a protective collar such as 54 or 58 as shown in Fig. 5 and the discussion at col. 11, about lines 25-45 for processing of PCB. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of a protecting collar as taught by Collins for various known benefits including that as described above such as for controlling the pin movement including the deflecting of and displacement, etc. (see col. 3, lines 25-45).

As applied to claim 2, regarding the collar to be a molded rubber, it would have been an obvious matter of design choice to choose any material structural from a group of host materials since applicant has not disclosed that the claimed protective collar is a molded rubber such material would solve any stated problem or is for any particular

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purpose and it appears that the invention would perform equally well with the type and material of the protective collar 54 or 58 as taught by the prior art reference to Collins (see Fig. 5).

As applied to claim 3-4, since Collins discloses the collar being position on the pins array as depicted in Fig. 5, he inherently discloses the limitation of claims 3-4 where the collar for protecting an associated compliant contact area of the PCB and that as recited in claim 4.

As applied to claim 5, Collins discloses the protective collar and the support pin is being formed a single piece structure as shown in Fig. 5. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form a pin structure that have a collar formed therefrom, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited for their teaching of pins array for supporting PCB or the like.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (571) 272-4569. The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, peter vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mt

6/22/05

A handwritten signature in black ink, appearing to read 'Minh Trinh', followed by a horizontal line.

Minh Trinh
Primary Examiner